

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1 through 55 (Cancelled).

56. (Previously Presented) A method as in claim 57 wherein the ultrafiltrate is removed at a rate determined by a mechanical filtrate pump and said method further comprising concentrating the blood by removal of the ultrafiltrate.

57. (Currently Amended) A method for filtering blood comprising:

withdrawing blood from an adult patient;

performing ultrafiltration by filtering the withdrawn blood in a filter having an active filter membrane surface of no greater than 0.2 meters squared (m^2) to remove ultrafiltrate from the blood, wherein the filter membrane blocks the passage of blood molecules having a molecular weight ~~out of~~ at least ~~50,000~~ 60,000 Daltons, wherein an amount of the removed ultrafiltrate is an effective therapeutic amount for treating a fluid overload condition of the patient;

infusing the ultrafiltrated blood into the adult patient, and

removing the ultrafiltrate with the filtrate pump at a rate no greater than one liter per hour.

58. (Currently Amended) A method for filtering blood comprising:

withdrawing blood from an adult patient;

performing ultrafiltration by filtering the withdrawn blood in a filter having an active filter membrane surface of no greater than 0.2 meters squared (m^2) to remove ultrafiltrate from the blood, wherein the filter membrane blocks passage of blood molecules having a molecular weight ~~out of~~ at least ~~50,000~~ 60,000 Daltons, wherein an amount of the removed ultrafiltrate is an effective therapeutic amount for treating a fluid overload condition of the patient;

infusing the ultrafiltrated blood into the adult patient, and
withdrawing the blood in a range of 10 to 60 milliliters per minute.

59. (Currently Amended) A method for filtering blood comprising:

withdrawing blood from an adult patient;

performing ultrafiltration by filtering the withdrawn blood in a filter having an active filter membrane surface of no greater than 0.2 meters squared (m^2) to remove ultrafiltrate from the blood, wherein the filter membrane blocks passage of blood molecules having a molecular weight ~~out of~~ at least ~~50,000~~ 60,000 Daltons, wherein an amount of the removed ultrafiltrate is an effective therapeutic amount for treating a fluid overload condition of the patient;

infusing the ultrafiltrated blood into the adult patient, and

passing the blood through a blood circuit comprising the filter during a residence time period of no greater than 120 seconds.

60. (Previously Presented) A method as in claim 59 further comprising passing the blood through filter fibers having a length of at least 20 centimeters and wherein said filter fibers are housed in a substantially straight filter housing.

61. (Previously Presented) A method as in claim 59 further comprising passing the blood through a straight bundle of filter fibers having at least 620 fibers.

62. (Previously Presented) A method as in claim 59 wherein said filter further comprises a substantially straight housing having a length of at least 20 cm and an internal diameter of no greater than 1.5 cm.

63. (Currently Amended) A method for filtering blood comprising:
withdrawing blood from an adult patient;
performing ultrafiltration by filtering the withdrawn blood in a filter having an active filter membrane surface of no greater than 0.2 meters squared (m^2) to remove ultrafiltrate from the blood, wherein the filter membrane blocks passage of blood molecules having a molecular weight ~~out~~ of at least ~~50,000~~ 60,000 Daltons, wherein an amount of the removed ultrafiltrate is an effective therapeutic amount for treating a fluid overload condition of the patient;

infusing the ultrafiltrated blood into the adult patient, and
a shear rate of blood flowing through the filter of at least 1000 per second at a flow rate of no greater than 40 ml/sec.

64 to 71. (Cancelled)

72 (New). A method as in any of claims 57, 58, 59 or 63 wherein the filter membrane blocks passage of blood molecules having a molecular weight of at least 50,000 Daltons.

73 (New). A method as in any of claims 57, 58, 59 or 63 wherein the filter membrane blocks passage of blood molecules having a molecular weight of at least 30,000 Daltons.

74 (New) A method as in any of claims 57, 58, 59 or 63 wherein the filter membrane blocks passage of blood molecules having a molecular weight of 20,000 Daltons.

75 (New) A method for filtering blood comprising:

- withdrawing blood from an adult patient;
- performing ultrafiltration by filtering the withdrawn blood in a filter having an active filter membrane surface of no greater than 0.2 meters squared (m^2) to remove ultrafiltrate from the blood, wherein the filter membrane inhibits the passage of plasma proteins and an amount of the removed ultrafiltrate is an effective therapeutic amount for treating a fluid overload condition of the patient;
- infusing the ultrafiltrated blood into the adult patient, and
- removing the ultrafiltrate with the filtrate pump at a rate no greater than one liter per hour.

76. (New) A method for filtering blood comprising:

- withdrawing blood from an adult patient;

performing ultrafiltration by filtering the withdrawn blood in a filter having an active filter membrane surface of no greater than 0.2 meters squared (m^2) to remove ultrafiltrate from the blood, wherein the filter membrane inhibits the passage of plasma proteins and an amount of the removed ultrafiltrate is an effective therapeutic amount for treating a fluid overload condition of the patient;

infusing the ultrafiltrated blood into the adult patient, and
withdrawing the blood in a range of 10 to 60 milliliters per minute.

77. (New) A method for filtering blood comprising:

withdrawing blood from an adult patient;

performing ultrafiltration by filtering the withdrawn blood in a filter having an active filter membrane surface of no greater than 0.2 meters squared (m^2) to remove ultrafiltrate from the blood, wherein the filter membrane inhibits the passage of plasma proteins and an amount of the removed ultrafiltrate is an effective therapeutic amount for treating a fluid overload condition of the patient;

infusing the ultrafiltrated blood into the adult patient, and
passing the blood through a blood circuit comprising the filter during a residence time period of no greater than 120 seconds.

78. (New) A method for filtering blood comprising:

withdrawing blood from an adult patient;

performing ultrafiltration by filtering the withdrawn blood in a filter having an active filter membrane surface of no greater than 0.2 meters squared (m^2) to remove

ultrafiltrate from the blood, wherein the filter membrane inhibits the passage of plasma proteins and an amount of the removed ultrafiltrate is an effective therapeutic amount for treating a fluid overload condition of the patient;

infusing the ultrafiltrated blood into the adult patient, and

a shear rate of blood flowing through the filter of at least 1000 per second at a flow rate of no greater than 40 ml/sec.